

Figure 2 is a block diagram showing a configuration of Figure 1 embodiment;

Figure 3 is an illustrative view showing a stored state of a program and data in a main body internal ROM and a memory cartridge ROM;

Figure 4 is an appearance view showing shapes of a cartridge connector and a  
5 memory cartridge;

Figure 5 is an illustrative view showing the shapes of the cartridge connector and the memory cartridge;

Figure 6 is an illustrative view showing a connected state between a high-speed processor and the main body internal ROM;

10 Figure 7 is an illustrative view showing a connected state among the high-speed processor, the main body internal ROM and the memory cartridge ROM;

Figure 8 is an illustrative view showing an address space when viewed from the high-speed processor;

15 Figure 9 is an illustrative view showing a mapping state of the address space when the memory cartridge is not attached;

Figure 10 is an illustrative view showing a mapping state of the address space when the memory cartridge is attached;

Figure 11 is an appearance view showing one example of a ball paddle game device;

20 Figure 12 is an illustrative view showing one example of a ball paddle game screen;

Figure 13 is a block diagram showing a configuration of Figure 11 embodiment;

Figure 14 is an illustrative view showing a stored state of programs and data in the internal ROM and the memory cartridge ROM of the karaoke device with built-in  
25 microphone, and the internal ROM of the ball paddle game device;

Figure 15 is an illustrative view showing a mapping state of the address space when the memory cartridge is not attached to the ball paddle game device;

Figure 16 is an illustrative view showing a mapping state of the address space when the memory cartridge is attached to the ball paddle game device;

Figure 17 is an illustrative view showing a mapping state of the address space when the memory cartridge is attached to the karaoke device with built-in microphone; and

Figure 18 is a flowchart of a common start program.

## **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS**

Referring to Figure 1, a karaoke device with built-in microphone (home karaoke device) 10 according to this embodiment includes a housing (main body) 12 having an egg-shaped upper portion and a cylindrical lower portion, and a microphone 14 is mounted at an upper end of the egg-shaped portion of the housing 12. On an upper portion of the housing 12, i.e. the egg-shaped portion, a power switch 16 and a reset switch 18 are provided. The power switch 16 is a switch for turning on/off a power, and the reset switch 18 is a switch for resetting a whole process including selected music number.

Furthermore, a display 20 formed of a two-digit seven segment LED is provided on the egg-shaped portion of the housing 12, and on a left side that sandwiches the display 20 tempo control keys 22 and 24 are provided in an aligned fashion in a vertical direction, and on a right side BGM volume control keys 26 and 28 are provided in an aligned fashion in a vertical direction. The display 20 is utilized to show a music number selected by a user. The tempo control keys 22 and 24 are keys for increasing or decreasing a reproduction speed (tempo) of the karaoke, i.e. BGM. The BGM volume control keys 26

and 28 are keys to increase or decrease a reproduced sound magnitude (volume) of the karaoke, i.e. BGM.

Music selection/pitch control keys 30 and 32 are provided at a center, slightly lower portion of the egg-shaped portion of the housing 12. The music selection/pitch control keys 30 and 32 are utilized to increment or decrement a music number, and also utilized to raise or lower a karaoke pitch frequency, i.e. a tone in tune in accordance with the user's tone one by one degree, for example.

An echo mode selection key 34 is provided at a left of the music selection/pitch control keys 30 and 32 and below the tempo control keys 22 and 24 on the egg-shaped portion of the housing 12. The echo mode selection key 34 is utilized to selectively set an echo time (delay time) in an echo mode. In this embodiment, it is possible to set echo mode 1, echo mode 2 and echo mode 3, and the echo time is set as "short", "medium" and "long", respectively.

A voice effect mode selection key 36 is provided at a right of the music selection/pitch control keys 30 and 32 and below the BGM volume control keys 26 and 28 on the egg-shaped portion of the housing 12. The voice effect mode selection key 36 can set voice effect mode 1, voice effect mode 2 and voice effect mode 3 in this embodiment. The voice effect mode 1 is a mode for processing voices so as to raise a frequency of output voices with respect to a frequency of input voices, and the voice effect mode 2 is a mode for processing voices so as to lower a frequency of output voices with respect to a frequency of input voices. Furthermore, the voice effect mode 3 is a mode for processing voices so as to continuously and repeatedly change (sweep) a frequency of output voices upward and downward.

A cancellation key 38 is provided between the display 20 and the music selection/pitch control keys 30 and 32. The cancellation key 38 is a key for canceling the